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## COTTON EXCHANGES AND THEIR ECONOMIC FUNCTIONS

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By ARTHUR R. MARSH,  
Ex-President, New York Cotton Exchange.

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Within the brief space of a little more than one hundred years, cotton has risen from a comparatively insignificant article of commerce to such a position, that to-day it probably surpasses all other commodities in the money values involved in its production, distribution, manufacture, and final delivery in the form of finished goods to the consumer. Though wheat and the other food grains appear to be more immediately necessary to the life of the race, cotton to-day surpasses them in value and consequently in its annual demands upon the liquid capital of the world. Iron and steel are more impressive to the imagination, because of the visible magnitude of the industries required to provide them; but iron and steel fall far behind cotton in their total demands upon the world's credits, in the number of human beings employed in providing them, and in their universal importance in the world's trade. All other textile materials, even wool, have fallen into comparative insignificance by the side of cotton. And every year sees a further increase in the uses and in the demand for cotton, accompanied by an extension of its culture and an increase of its importance in commerce and finance. Nobody knows exactly how much cotton the world already grows and manufactures into fabrics, for there are still great portions of the earth, where cotton is known to be raised on a vast scale, which are either incompletely or not at all covered by statistical information. India, for example, where cotton is known to have been raised and spun since at least eight hundred years before Christ, produces every year a crop about whose magnitude exact information is limited to the portion that reaches the ports, like Bombay, Madras, Tuticorin and one or two others, while the possibly larger quantity spun and woven by hand in the native homes is only inadequately guessed at. There are some reasons for thinking that China is the greatest producer of cotton of all countries, and a recent United

States consular report from Hong Kong puts the possible value of the annual consumption of cotton goods in China, chiefly made by home workers out of native cotton, at the enormous figure of \$1,000,000,000; but the only exact statistics we have as to the production of cotton in China are confined to the few hundred thousand bales annually exported to Japan and other countries. Again, it is known that very considerable quantities of cotton, statistically unaccounted for, are raised in Brazil, Peru, and other South American countries; and that the same is true of Asia Minor. These are the uncertainties; but, turning to what is known by means of trustworthy statistics, we find the sum total of the cotton production of the world attaining vast proportions. The United States alone can be counted on to-day for an average yield of not much below 13,000,000 bales of 500 lbs. weight; India produces not far from 5,000,000 counted bales; Egypt, about 1,000,000; Asiatic Russia gave last year 900,000 bales; China, about 600,000 counted bales; Mexico, about 225,000 bales; Brazil, 220,000 bales; Asiatic Turkey, about 150,000 bales; Peru, 110,000 bales; and other countries not far from 250,000 bales. Here is a total of about 21,500,000 bales of cotton, which may be taken as approximately the annual production of the world at present. And all this cotton, and more, is required as raw material for the world's spindles, the number of which, as enumerated statistically, has risen to nearly 140,000,000. Indeed, the supply of cotton is actually less than these spindles require for full operation. And the value of this cotton in its unmanufactured state is not far from \$1,750,000,000, while its value after manufacture cannot be much less than \$4,000,000,000, and is undoubtedly much more than this before it reaches the consumer.

It is upon the cotton merchants that the duty falls of gathering up every year this great aggregate of cotton, requiring this large sum of money to finance it, from all the various countries where it is produced, and of distributing it in exactly the quantity and quality needed to all the cotton manufacturers of the world, wherever their mills may be situated. It is a current saying of the financial world that "cotton is gold," which means that cotton, no matter where it may be, can always be turned into money at once. No other commodity is comparable with cotton in this respect. And the cotton merchants are looked to for the provision

of all the commercial arrangements necessary to make this possible. They are expected to have ready the money or the credit to pay for every bale of cotton offered for sale, wherever it may be, whether in the smallest interior town of the Southern United States, or in the interior of India, or in the Soudan. They are also expected to be ready to provide any spinner anywhere with the exact quantity and quality of cotton he needs for the manufacture of the particular kinds of goods his mill is equipped to turn out. And not only are the cotton merchants expected to do these things, but they do them. The only limitation upon their achievement arises from an occasional under-supply of cotton or of particular kinds of cotton which spinners would like to have. There is no limitation at all upon their furnishing a continuous market for all the cotton which is annually produced. They have completely covered the earth with a network of commercial and credit connections; they have provided means of practically instantaneous communication between markets and agencies for gathering and disseminating information; they have made the arrangements for buying and warehousing and separating the cotton according to its qualities and for shipping. Their operations are among the most important factors in the daily course of the world's finance. Unobserved they affect the balance of trade of the greatest nations, daily influence the course of international exchanges, produce changes in the interest rates in the great money markets, and sometimes, as during the American panic of 1907, furnish the wherewithal to stay national disaster. Their function is, then, one of the most important in modern commercial and financial life.

In the performance of this function, and in carrying along continuously without confusion of checks or periods of suspended activities this world-wide business, the cotton merchants have found it desirable and even necessary to avail themselves of great common markets. Here they can constantly meet, either in person or through representatives, and not only exchange information, but enter quickly and safely into the multitudinous transactions with each other and with the world at large, which are required in the complicated process of bringing all the cotton of the world into the channels of commerce and insuring that all of it, in the right quantity and quality, shall reach the spinners who need it, wherever they may be. Perhaps it would be more exact to say

that out of the very necessities of the cotton trade, and without conscious purpose on the part of individual merchants or groups of merchants, great common markets have grown up, their location really determined by the economic requirements of the case, and that all considerable cotton merchants, the world over, find it advantageous to make use of these markets in the conduct of their business. Such world-markets for cotton should not be confused with the multitude of lesser local markets, scattered all over the districts where cotton is produced, in which the preliminary gathering together of the various cotton crops is done and which serve as the primary points of distribution. Important as some of these lesser markets are, by reason of the quantity of cotton handled in them, and necessary as they all are, the business transacted in them is at once much more limited and local and of a radically different kind from that done in the great world-markets. In a sense they are merely subsidiary to and dependent upon the latter, and they look to the latter for the real determination of most of the questions which arise in the course of trade. The prices at which cotton is bought and sold in them, for instance, are invariably reflections of the prices which are being made in the continuous transactions of the great markets. The forces of demand and supply do not converge directly upon them, but only indirectly through the great markets. This is not to say that this or that of these lesser markets may not be so largely the source of supply of some particular character or quality of cotton as to give it a kind of authority over the relative price of that character or quality, compared with the general level of cotton prices. But this general level of cotton prices is always determined by the balance of the forces of supply and demand in the great markets. It is in the great markets that, so to speak, the entire cotton consuming world is, through the mediation of the cotton merchants, brought into direct relations with the whole cotton producing world, and that the exchange of the commodity produced by the one and required by the other takes place, if not physically, at least in the sense that the terms of the exchange are there fixed. To such an extent is this true that there is a popular misapprehension, particularly among producers of cotton, to the effect that in the great markets there is some unavowed method among merchants by which the actual price of cotton is

consciously and, as it were, by unanimous consent determined upon from day to day, and that this price is then made the basis of all the operations of the merchants as buyers or sellers of cotton for the time being. Although it would be impossible to get farther from the truth than does this proposition, it yet has wide currency, and in one or another form shows itself in most of the political and commercial agitations with regard to the cotton trade. In real truth, the cotton trade is probably the most freely and completely competitive of all branches of commerce; its course is the most completely determined by the forces of demand and supply, not merely from week to week or from day to day, but it may even be said from minute to minute. As will be shown later, some of the most important functions of the great markets are directly due to the absence of any intended and associated effort to decide what the price of cotton should be. And the influence of these markets upon the buying and selling of cotton everywhere is due simply to the fact that they are known to register infallibly at every moment the exact forces of world demand and world supply which are making themselves felt, and the prices which result from the balance of these forces. They are instantaneously affected by every form of demand that declares itself, whether coming immediately from spinners or from cotton merchants who have a demand from spinners or from yarn and cloth merchants who are able to put through business in their goods or from speculators. They feel just as quickly every increase in the supply, whether from cotton producers themselves, or from merchants who have bought from the producers, or from spinners who find they have on hand more cotton than they can prudently carry for immediate use or from speculators who are ready to sell now what they think they can buy later at a lower price to fulfil their contracts. All the varying conditions of every cotton producing and of every cotton manufacturing country are immediately reflected in these markets; and the course of prices in them is the resultant curve of so incalculable a number of forces that no human mind can hope to do more than forecast it tentatively and in the most general way. And still it remains true that it is the course of prices in the great markets which serves as a guide to all cotton merchants and less directly to all cotton manufacturers and all distributers of their goods in the conduct of their business.

from day to day. And the cotton producer relies upon the same guide; for the humblest cotton grower in the most remote district in the southern states of America will to-day not sell his cotton until he has informed himself of the latest prices in the great markets. Moreover, he is easily able to do this, by reason of the remarkable way in which this information is now speedily and accurately transmitted to every place which has any interest in cotton.

The cotton markets which by force of economic circumstances have risen to the place of great world-markets in the sense just described are New York and New Orleans, in the United States; Liverpool, in England; Bremen, in Germany; Havre, in France; Alexandria, in Egypt; and Bombay, in India. But even between these seven markets there are differences in the degree to which all their economic and commercial functions are developed, and consequently in their relative importance to the trade. In only five—New York, New Orleans, Liverpool, Havre and Alexandria—can it be said that every kind of operation required in the cotton business is continuously carried on; and of these five, two, Havre and Alexandria, have limitations which remove them from the class of first importance. The business of Havre, though fully developed in all its forms, is chiefly confined to serving the needs of France, which is comparatively low in the list of cotton-consuming countries. In Alexandria, all operations are confined to cotton of Egyptian growth, which, though of great importance because of its peculiar qualities, is produced in comparatively small amounts each year and consequently affects only to a moderate extent the general problem of the supply of cotton and the demand for it. On the other hand, Bremen, though a market of the first importance for actual cotton, drawn upon not only by Germany, but also by Austria, Russia, and the smaller countries of Northern Europe, has been prevented by German governmental action from carrying on openly one of the most important forms of trading in cotton, making contracts for future delivery, and as a result its merchants are obliged to rely mainly upon Liverpool and New York for the opportunity to transact an essential part of their business. It follows, naturally, from this incompleteness of function that the market of Bremen is comparatively unimportant as a register of the forces of demand and supply and of the prices made thereby. Finally, Bombay, while the chief market for the

great Indian cotton crop, has not yet adopted in their completeness the methods used by the cotton merchants of the United States and Europe. It deals in a kind of cotton which, though of general value, is of a peculiar quality and much less desirable for spinners than cotton of other growths. Accordingly, the transactions which take place in that market have far less general significance than those of the great Western markets. Thus we are brought to the conclusion that even among the major cotton markets of the world there are only three of the very highest class, New York and New Orleans, in the United States, and Liverpool, in England. It may fairly be said that in these three markets the entire world of cotton is reflected. The entire cotton trade looks to them for guidance from day to day, bases all its operations upon the course of prices established in them, and follows with the closest attention every development in them which serves as an indication of the way in which the balance of supply and demand is swinging or is about to swing.

By reason of the volume of daily transactions in these great markets and of the importance of them to the whole cotton trade, the cotton merchants doing business in them found it desirable many years ago to associate themselves together in bodies corporate, known as cotton exchanges, for the purpose of establishing and maintaining just and reasonable and publicly announced rules, under which all dealings between the merchants should be conducted, and which should serve as a basis to the cotton world generally for interpreting the course of events in the markets themselves. This was particularly necessary because cotton is a commodity requiring a high degree of technical skill in its handling and likely to give rise to all kinds of misunderstandings and even to fraud, if uniform and clearly defined methods of dealing in it are not laid down. In the earlier period of the great rise of cotton to economic importance, let us say, up to the middle of the 19th century, cotton had been merchandised, even in the greater markets, by numerous factors, merchants, brokers, commission-men and other dealers, each following his own ideas and employing such methods as he saw fit with the cotton producers, on the one hand, and with the spinners and his fellow traders, on the other. Hence arose constant costly disputes and much confusion and loss, to say nothing of unjust advantages taken by those who were not too

scrupulous. The very terms of every contract entered into were more or less loose and vague, and it was impossible for anyone in the business to know precisely to what he was committing himself. The first movement to obtain better conditions seems to have been made in Liverpool, where, on April 2d, 1841, there was organized a body called the Cotton Brokers' Association of Liverpool. This association, however, did not include all the dealers in cotton in Liverpool; its membership was confined to the class of persons known in that market as "buying brokers," whose particular business was to select from the available cotton held by merchants the particular requirements of individual spinners and to buy this for the spinners' account. The objects announced by this new organization in the cotton trade were, first, to lay down uniform rules under which the members should do business, both with the cotton merchants and with their own spinner customers; and, second, to enter upon the work of systematically compiling statistics of the available supplies of cotton, both in Liverpool and elsewhere, for the information of the members and of the public at large. This first formal organization of cotton dealers lasted as an independent body some forty years, but was in 1882 merged with the later established general body known as the Liverpool Cotton Association. It is, however, entitled to the credit of having shown the cotton trade the great advantages to be derived from clearness and uniformity of rules, and of having paved the way for that careful and elaborate gathering of statistics which has now reached such perfection that, with the exceptions already noted, the entire world is now covered by the statisticians, and everybody concerned with cotton is able to judge for himself what the available supply is everywhere. So well did the association fulfil its function that for nearly thirty years it was relied upon as the regulator of the cotton trade in Liverpool. But with the constant increase of the spinning industry in Great Britain and the consequent enlargement of the cotton trade in Liverpool, it finally became desirable to organize a larger and more inclusive body, which should have as members all classes of dealers in cotton. The impulse in this direction became the greater, by reason of the many changes in the cotton trade occasioned by the Civil War in America. While this war lasted, the uncertainty of the supply of cotton, the tremendous fluctuations in its price, and the consequent attraction of a purely

speculative class of traders to the cotton market brought into play economic forces hitherto unknown in the trade and made it imperative that all dealers in cotton should seek protection from undue risks in a much wider and more rigid uniformity of methods and rules than ever before. As a result, there took shape in Liverpool in the years just following the American Civil War a more complete organization of the Liverpool cotton dealers; and, in 1870, this became the Liverpool Cotton Association, which still continues to exist as the controlling body in the world cotton market of Liverpool. At first the older association of "buying brokers" maintained its separate identity, but, as has been said above, this was merged in 1882 with the larger body, and since that date there has been but one Liverpool Cotton Exchange.

The same influences that were at work in the cotton trade in England had already made themselves felt in the two greatest cotton markets of the United States, New York and New Orleans. In the early days the merchandizing of cotton in both these markets had been conducted in the main upon the lines of the merchandizing of all country produce. Commission merchants and factors received the cotton from the country, often after having advanced money to the planters to grow the crop, and offered it for sale to spinners or to buyers for spinners or to exporters. Until the cotton was sold, it was carried in warehouses like any other stock of merchandise. Heavy risks were run and heavy charges incurred in handling and distributing each year's crop in this manner. But the disturbances of the Civil War immensely increased these risks, and at the same time forced dealers to adopt various new methods in their effort to reduce these risks as much as possible. The class of "brokers" greatly increased, and all concerned endeavored to find ways to pass on the risks as quickly as possible, aiming to act in the capacity of commercial intermediaries, rather than as speculative merchants in the old sense. Cotton was accordingly passed from hand to hand much more rapidly than before the war and the trade constantly grew in complexity. But this very complexity made more imperative absolute uniformity of rules and practices, in order that confusion and loss might be avoided. So, within less than a year after the formal organization of the Liverpool Cotton Association, the cotton dealers of both New York and New Orleans associated themselves together in cotton exchanges.

The New York Cotton Exchange was granted a charter by the State of New York on April 8, 1871. The New Orleans Cotton Exchange was organized in February, 1871, and was incorporated by the State of Louisiana, on September 19th, 1871. The objects which the founders of these two bodies had in view are well illustrated by the declarations of Section 3 of the Charter of the New York Cotton Exchange, which reads as follows:

The purposes of said corporation shall be to provide, regulate and maintain a suitable building, room or rooms, for a cotton exchange, in the City of New York, to adjust controversies between its members, to establish just and equitable principles in the trade, to maintain uniformity in its rules, regulations and usages, to adopt standards of classification, to acquire, preserve and disseminate useful information connected with the cotton interest throughout all markets, to decrease the local risks attendant upon the business, and generally to promote the cotton trade of the City of New York, increase its amount and augment the facilities with which it may be conducted, and to make provision for the widows and families of deceased members. The said corporation shall have power to make all proper and needful by-laws, not contrary to the constitution and laws of the State of New York or of the United States.

It is hardly necessary to give here the detailed history of the organization of the cotton exchanges at Bremen and Alexandria, and of the cotton section of the Havre Bourse, all inaugurated considerably later than the three great exchanges above mentioned. Bombay, in spite of its character as a world cotton market, has as yet no formally organized cotton exchange. In fact, it may be said that the three exchanges of New York, New Orleans and Liverpool stand by themselves in completeness of economic type, in equipment to meet all the needs of the world's cotton trade, and, consequently, in recognized authority as registering the balance of all the forces of supply and demand as regards cotton. To such an extent is this true that they have now ceased to be simply associations of local cotton dealers in these great markets, and have become representative associations of the entire trade. Their membership now embraces great numbers of persons who are not personally present in those markets at all, and whose immediate business is conducted in all sorts of places, often very remote from the centers themselves. The New York Cotton Exchange, for example, has members not only all over the United

States, but also in every important country of Europe and even as far away as Japan. Yet all these persons make continual use of the great exchanges to which they belong, and base their entire business upon transactions made for their account upon those exchanges.

We are now brought to the matter of the nature of these transactions upon the cotton exchanges which constitute, so to speak, the economic fabric of the cotton trade. And here, before proceeding to detail, it will be well to make clear the fact that, just as there is a primacy among cotton markets, so also there is a kind of primacy among the different crops of cotton produced by various countries. Although all cotton, wherever raised, is of importance, and although some of the smaller crops, like the Egyptian, have particular qualities that give them exceptional value, there is general agreement in assigning to the crop of the United States a place in the economics of cotton that belongs to no other. This is both because of the size of the American crop, more than double that of any competing country, and also because of the character of the cotton itself. Embracing within itself a very considerable variety of qualities, suitable for all but a few of the needs of all manufacturers, American cotton is *par excellence* what the trade calls the "bread-and-butter" cotton of commerce. Wherever there are cotton spindles, even in countries which themselves produce cotton, American cotton is used to a greater or less degree. Other cottons are judged in the main in their relation of quality and price to American cotton.

It is, therefore, in connection with American cotton that the action of the forces of demand and supply is most fully and significantly manifested. The fluctuations of the price of American cotton are, speaking generally, followed not only by dealers in this kind of cotton, but also by dealers in all other kinds of cotton, and by manufacturers and merchants of all kinds of goods made of cotton, as the basis of their business operations. It is not meant by this that the abundance or scarcity of other kinds of cotton is of no importance or has no effect upon the general level of cotton prices. Quite the contrary is the case. But this effect is signalized to the cotton trade through the markets for American cotton, rather than directly through the noted movements of the prices of the other cottons. And, as a result of these commercial facts, the

study of the economic functions of cotton exchanges becomes primarily the study of those exchanges only where American cotton is exclusively or preponderantly dealt in. These are New York and New Orleans, in the United States, and Liverpool, in England. In the first two, only American cotton is bought and sold, either presently or for future delivery. In the last, though Egyptian cotton is traded in for both accounts and almost all other growths of cotton are bought and sold "on the spot," as cotton merchants say, the business in American cotton so far surpasses the business in all other cottons, that the Liverpool market is generally thought of as regards its American section alone. We may go further and say that anyone who understands the rationale of the business in American cotton in the three great markets just mentioned will possess practically all that is essential of the theory and practice of the cotton business to-day.

The essential matters to elucidate become these: What are the essential characteristics of the commodity, American cotton, as an article of commerce? What are the commercial necessities or requirements that have to be met in gathering it together from the wide area in the southern states over which it is produced and in distributing it to those who need it? And what transactions, based upon what principles and governed by what rules, are required upon the great cotton exchanges, in order that they may fulfil the part which they have been described as filling in the economies of cotton? It will, perhaps, be clearest to take up these questions in their order, as this will permit us to follow the logical development of the inherent nature of the matter, to which, rather than to the conscious wit of men, the very existence of cotton exchanges is due.

Cotton is a commodity which, though all of it is destined to the same use, *i. e.*, to be spun, is remarkable for the number of variations of quality which it shows. This is particularly true of American cotton. In this fact there is, fortunately, great economic advantage, because spinners are, by reason of it, enabled to find in each crop just the kinds of cotton which are peculiarly adapted to the manufacture of the immense variety of cotton fabrics now commonly made. Yet this variety of quality fundamentally affects the procedure of the cotton trade and has much to do with determining the rules of the cotton exchanges. It is necessary, then, to

describe it in its main features. It may be said that the variation is of two kinds,—first, length of fibre, or “staple,” and, second, color and comparative freedom from extraneous matter. To the first of these variations the name “staple” is commonly given; to the second, “grade,” or “class.” These require a brief description.

The “staple” of American cotton, omitting the limited special variety of Sea Island cotton, with a fibre of great length and strength, varies in length from about  $\frac{5}{8}$  inch to about  $1\frac{1}{2}$  inches. Every increase in the length of the fibre results in an increase in the value. This is particularly true when the fibre has a length of  $1\frac{1}{16}$  inches or more. From that point every addition of  $\frac{1}{16}$  inch to the fibre adds cumulatively to the price. Though there are no sharply defined geographical limits within which the several varieties of staple are produced, it is true in a general way that the shorter stapled cottons (from  $\frac{5}{8}$  inch to 1 inch in length) are grown in the states on or near the Atlantic seaboard,—North and South Carolina, Georgia, Alabama and Florida. The trade name for these cottons is “upland.” The somewhat longer stapled cottons (from 1 inch to  $1\frac{3}{16}$  inches in length) are produced in the greater part of the Mississippi Valley States and in Texas and Oklahoma, and are known as “Gulf” and “Texas” cottons. Practically all of the long stapled cotton (from  $1\frac{3}{16}$  inches to  $1\frac{1}{2}$  inches in length) is grown in that part of the State of Mississippi called the Delta, lying between the Yazoo and Mississippi Rivers, and in part of Arkansas. These cottons are known as “rivers” or “benders,” because raised on the rich alluvial land in the bends of the rivers. In their relative proportions in the entire annual crop these varieties of staple stand approximately as follows: Uplands, fifty per cent; Gulf, and Texas, forty-five per cent; and extra staples (rivers and benders), five per cent. It will thus be seen that in the trading on the cotton exchanges upland cotton must be given the foremost place, and in fact made the basis for all the trading rules, but that special provisions are required to take care of the more valuable longer stapled cottons.

No matter what the length of staple may be or where the cotton may be raised, it varies in respect to its color and in respect to the amount of dry leaf, dust and other extraneous matter which it shows. In the matter of color three main divisions are

recognized by the trade,—white, tinged and stained. White cotton is that which has opened in the fields and been picked before frost occurs and before heavy winter storms have affected it. The proportion of it in any crop varies greatly with the varying dates of frost and the character of the weather through the picking season. Sometimes almost the entire crop is white cotton; in other years less than half of it. It is generally much more valuable than tinged or stained cotton. "Tinges" are produced by light frosting of the cotton bolls before they open, and have a slightly yellowish, or golden orange color. "Stains" are due to a combination of heavy frost and severe storms, and have a deep orange or tawny color. But, whether the cotton be white, tinged or stained, it always has in it a certain amount of extraneous matter,—dry leaf, specks of dust, bits of husk and so forth. As this matter must be taken out of the cotton before it is spun, and is a pure loss to the spinner, the relative amount of it in any particular cotton affects its value. Consequently all cotton has to be separated into the "grades" which correspond with the amount of such matter shown. These grades have names universally current in the trade, and most of them descended from the early days about which we have little chronicled information. That "grade" which seems originally to have been thought to represent a fair average of quality has, ever since we knew anything of American cotton, been known as "middling." Grades better, *i. e.*, cleaner, than "middling" are called "good middling," "middling fair" and "fair"; those poorer, *i. e.*, dirtier, than "middling" are called "low middling" and "good ordinary." Modern requirements, however, have made it necessary to carry the refinement of sub-division of grade still further, and to establish what are known as "half-grades," and even "quarter-grades" between the above "full grades." The list of "half-grades" above "middling" is in New York "strict middling," "strict good middling" and "strict middling fair"; below "middling" it is "strict low middling" and "strict good middling." The "quarter-grades" recognized in New York are "fully middling," "barely good middling" and "fully good middling" on the ascending scale; and "barely middling" and "fully low middling" on the descending. It should, perhaps, be stated here that there is a slight lack of uniformity between the great markets in the nomenclature of the intermediary grades.

Thus in Liverpool the "half-grades" bear the designation "fully" instead of "strict," as in New York. But the cotton trade is accustomed to these differences, and no confusion arises therefrom. It should also be noted that the range of grading accepted for "tinged" cotton is smaller than for "white"; and that all merchantable "stained" cotton is called "middling stained,"—all "stains" below that grade being treated as unmerchantable. The essential point to bear in mind is that every one of these "grades," "half-grades" and "quarter-grades," as well as each of the colors, has a different value. A further point of importance is that it is the custom of the trade to arrive at these different values by referring always to the current value of "middling" white cotton. This white grade of "middling," therefore, is known as the "basis grade," and the other grades or sub-grades are valued at so much "on" or "off" middling. The scale of the additions to or subtractions from the value of "middling," to arrive at the value of the other grades, is known as the scale of "differences."

At this point it is necessary to mention a fact which is one of the few causes of commercial disturbance and confusion left in the cotton trade. This is that it has not yet been possible to bring about complete uniformity of practice in all the markets for American cotton with regard to the very essential matter of exactly what constitutes each grade and sub-grade of cotton. As there is not yet any formal and imperative standard of cotton grades in the world, a very considerable variation is found between market and market, section and section. What is called "middling" in Augusta, Ga., is very different from and much higher than the "middling" of Savannah and Charleston. The "middling" of Texas is nearly one-half grade better than the "middling" of New York and fully one-half grade better than the "middling" of Liverpool. The grades of New York do not correspond with those of Liverpool or Bremen or Havre, nor with those of many of the spinning centers in New England. Expert cotton merchants are, of course, familiar with these variations and can make allowance for them, but they undoubtedly are a source of confusion all the time. And there is the more of this because many of the markets allow their grades to vary somewhat from year to year, according to the character of the successive crops. It may be said that the New York Cotton Exchange is the only great market in the United

States that has held without variation to a fixed standard of grades. This standard was adopted by a convention of all the important cotton exchanges in the country in 1874 and immediately put into effect by the New York Cotton Exchange, being rigidly adhered to by it ever since, though the other exchanges unhappily fell away from it almost at once. Within the past three years the United States Department of Agriculture, acting under a law passed by Congress, has caused a standard set of grade types to be made by a commission of cotton experts; but these types vary materially from what are accepted generally in the trade as the different grades, and are as yet incomplete in that they represent only Texas and Gulf cotton and not uplands and do not include the lowest grades of merchantable cotton. Consequently, they have not yet been widely adopted. Properly supplemented, however, with what is now lacking, these types could with great propriety and to the advantage of everyone be put into effect, in the United States at least. At the present moment, however, it is an unfortunate fact that a high degree of technical skill is required to know what is really meant by "middling" and the other grades in all the various markets for American cotton.

Having thus described the essential characteristics of the commodity, American cotton, we may now pass on to the commercial requirements that have to be met in the course of gathering it together, merchandising it and distributing it. To begin with, cotton must be bought and gathered together in the southern states, just as it runs, "in gross," as the French say; and it must be merchandised and distributed "in detail," to use the French expression,—that is, in accordance with the particular needs of particular spinners all over the world. The cotton planter wishes to sell his cotton just as Nature gives it to him, in all its grades and qualities at once. He has no information about the various markets for the different kinds of cotton. He knows only in a general way the relative values of these different kinds. It is the business of the cotton merchant to buy this cotton just as it is offered by the planter,—high grades, low grades, varying colors, varying staples, all together,—and then to find for each quality its appropriate purchaser among the spinners. The cotton merchant has to know not merely the current value of cotton "in gross," but also the values of all the separate qualities upon which the composite

"gross" value is based. And the requirements of individual spinners are just as detailed and specific as the offerings of the planter are miscellaneous. Generally speaking, every mill is arranged for the use of only certain qualities of cotton, suitable to the particular goods being manufactured by it. Other qualities, even though superior in point of market value, may be practically useless to it. Thus a mill arranged to spin upland cotton can generally do nothing whatever with bender cotton. To a certain degree the same is true of the different grades; what is advantageous in one mill involves a loss in another. So the cotton merchant must be familiar with what his various spinner customers need and must be ready to supply this out of his gross purchases in the South. Here at once a difficulty presents itself. The merchant, buying, as he must, all grades and qualities, may have an immediate market with spinners for only certain of these grades and qualities, and thus may have left on his hands for an indefinite time the superfluous cotton he has been obliged to buy along with what he really wanted. So long as he cannot sell this additional cotton, his "overs," as they are called by the trade, he must bear the risk of a decline in its value, unless he can find some way in which to protect himself. As will be seen later, this inescapable risk and the device of the trade for insuring against it, have had more than anything else to do with making the great cotton exchanges what they now are. Nor is this particular risk the only one the cotton merchant must take, in order to meet the needs of his spinner customers. For the spinners not only desire to buy from the merchant cotton that precisely meets their needs; they also wish to buy it in various different ways that will suit their convenience. For example, they are in the habit themselves of contracting for months ahead the output of their mills, and they desire to buy their cotton for delivery to them from month to month as they will require it. They look to the merchant to be ready to enter into such a contract for the future with them, instead of shipping them at once cotton which he actually has on hand. Such contracts for the future delivery of cotton to spinners are made in great numbers, running months and even years ahead, requiring for their fulfilment sometimes cotton not yet grown. Thus the merchant continually finds himself in the position of having on hand cotton for which he has no immediate sale and at the same time of being under con-

tract to spinners for the future delivery of cotton which he has not bought. No one unfamiliar with the cotton trade can conceive of the number, magnitude and complexity of these operations, which are required by reason of the world-wide character of the business of supplying all mankind with cotton fabrics and with cotton to make them of. But, obviously, the risks involved in all this are very great indeed. When it is remembered that the annual supply of cotton is entirely a matter of Nature's bounty; that from one year to the next there is often a variation of twenty per cent or more in this supply; that the effect on the price of cotton of superfluity one year followed by scarcity the next, is such as to produce fluctuations at times of nearly one hundred per cent in its market value;—when all this is remembered, it will be understood how severe are the risks that must be undergone by those who gather it together, merchandise it and distribute it. Were it not that a way has been found, through the use of the great cotton exchanges, to insure against these risks, it is certain that the whole conduct of the cotton business must be different from what it is, and that the certainty, ease and convenience with which the world is now kept supplied with its cotton would be unknown. And the world would suffer not only in the matter of cotton itself; it would be profoundly disturbed in all kinds of ways as regards international commerce and finance. It would be difficult to comprehend in one statement all the economic evils that would result from removing so immense an industry as the cotton industry from the field of safe calculation and undertaking for the future.

Fortunately, any such changed condition of things need not be contemplated, unless, indeed, certain busy but ignorant political agitators should meet with a success beyond probability. As has been indicated above, there has been evolved with the course of years a method of employing transactions upon the great cotton exchanges as a means of insuring against these immense aggregate risks; and, economically speaking, this method is one of the most interesting developments of modern commerce. A description of the transactions upon the cotton exchanges and of the rules that govern them is, therefore, now in order.

In their inception the markets where the great cotton exchanges are now situated were, of course, simply places to which, by reason of the geographical, commercial or financial advantages they

possessed, considerable quantities of cotton came to be merchandised. The buying and selling of cotton physically in the market, "on the spot," as the trade puts it, was until some forty years ago the exclusive cotton business of these places. About this business in cotton "on the spot" customs of the trade grew up, gradually assuming the shape of formulated rules, which were generally recognized as binding on all dealers in the markets. Such a custom of the trade was that the common unit of trading in cotton "in gross," and to some extent "in detail," should be one hundred bales. Other customs had to do with the way in which the seller should deliver his cotton to the buyer, and the buyer pay for it, or with the manner in which the grade or grades of the cotton should be ascertained and valued; or with the identity of the cotton and the certification of its place of origin; or with the warehousing and insurance; or with the settling of differences between traders; in short, a long list of matters of everyday occurrence. Later, this body of customs and rules about cotton "on the spot" was to serve as the foundation for the whole scheme of rules of the modern exchanges. And to this day a most important portion of the business of the exchanges themselves is trading in cotton "on the spot." New York, New Orleans and Liverpool still remain among the most important "spot markets" for American cotton in the world. And the merchants associated in the exchanges have adopted most comprehensive and yet detailed rules to govern their transactions in "spot" cotton. Uniformity and fair play are secured at every point in the delivery and receipt of such cotton, and in the payment for it and the passage of the title to it. Many members of the exchanges make dealing in it their exclusive business. And, yet, it has become in a sense not the main business of the exchanges, but subsidiary and ancillary to this main business. It may almost be said that as the main business of banks to-day is not dealing in money, but in credits; so the main business of the cotton exchanges is now in credit transactions in cotton, towards which the actual cotton "on the spot" stands in much the same relation as the money in the banks to the sum total of their transactions in credits. It serves as a reserve at once for the satisfaction of unliquidated credit balances and for the maintenance of sound values in all the credit operations. This, however, will not be clear without a more detailed

account of these credit operations themselves; and this we are now ready to undertake.

The name given to the credit transactions in question is "contracts for future delivery," or colloquially, "futures." For the complete understanding of the nature of these and of the part they have come to play in the economics of cotton, some knowledge of their history is necessary. We first get traces of them in their tentative forms in the period including and immediately following the American Civil War. As is generally known, the Civil War occasioned an enormous rise in the price of cotton outside the Confederate States, and also tremendous fluctuations in the price. In England, particularly, the constant scarcity of cotton and the uncertainty of the supply led to constant violent changes in the market. Such a condition of things invariably brings with it a craze for speculation in the commodity affected. And cotton was no exception to the rule. Among other expedients made use of by the English speculators was that of contracting for the purchase of cotton known to be on shipboard directed to England. Such cotton was known as cotton "to arrive," and the making of contracts for the delivery of this cotton "on arrival" became a leading feature of the Liverpool market before the close of our Civil War. Needless to say, these contracts were not bought and sold merely once again against a given cargo of cotton, but over and over again at the varying prices of the market. Speculators quickly saw that such contracts afforded them certain advantages as compared with cotton "on the spot." For one thing, they did not have to find the actual money to pay for them, as they did for the actual cotton. Then they had, or seemed to have, no warehousing and insurance bills to pay on them. So the tide of speculation turned largely in the direction of these contracts. As time went on, they were slightly modified in form, as shippers of cotton began to calculate that they could count on the arrival of their cotton at least within a period of two months. So contracts were made for the delivery of cotton to arrive within two specified and coupled months,—as, for example, October-November, January-February, July-August. In the late 60's, the making of such contracts had become a common practice; and little by little, the association of such contracts with certain specific cotton on specific ships died away and was replaced by the notion that contracts might be made for the deliv-

ery of cotton in any coupled months in the future and, when the months came around, might be filled with any cotton then available. Here was the contract for the future delivery of cotton, as we now know it, fully developed and formulated.

In the United States much the same forces were at work as in Liverpool, though to a greater extent in New York than in New Orleans. During the Civil War itself the cotton traded in by New York merchants was chiefly contraband cotton, seized by the Government and sold to merchants and speculators. Soon after the war, however, the practice of dealing in cotton, not only "on the spot," but "to arrive" from the South, became prevalent in New York. As it was possible to forecast the arrival of this cotton within a single month, the contracts made against it specified but one month for the delivery instead of the two coupled months of Liverpool. So the New York contracts from the start have called for May delivery or July delivery or October delivery, and so on, rather than May-June, July-August or October-November. When this manner of trading had been once entered upon, it developed with great rapidity, and by 1869 various New York merchants were making straight-out contracts with spinners and with their fellow-merchants, calling for the future delivery of cotton in specified months. And, precisely as in Liverpool, these contracts came to be traded in by both dealers and speculators, being passed from hand to hand at the varying prices of the market or being replaced by new contracts at new prices according to the convenience of the traders. By means of these contracts a given lot of cotton might pass through the hands of a large number of persons before being finally delivered to someone having immediate need for it. Furthermore, these contracts gave to the whole market a continuous flexibility and responsiveness to new conditions as they arose, which had been unknown and impossible in the days of simple merchandising. The importance and the influence of the New York market grew very rapidly after this new form of trading was inaugurated. On the other hand, New Orleans contented itself for some years with dealing in cotton "on the spot," because the natural flow of cotton to that market from contributory territory was so great as to provide abundant business for all the dealers there. It was not until some ten years after the system of trading in contracts for future delivery was

fully developed in New York that it began to be adopted in New Orleans.

So far, we have not touched upon the most important of all the uses to which contracts for future delivery came to be put, first in Liverpool, then in New York and later in New Orleans, by dealers in cotton. This use is what is technically known as "hedging" to protect engagements in actual cotton and to insure merchants against loss in such engagements. The inception of this practice was such a novel and far-reaching departure from previous custom as to justify quoting what the writer has said elsewhere about it.

It was two or three years after the Civil War that this new conception of the cotton business took shape in the mind of one of the most brilliant cotton merchants the world has ever known, the late Mr. John Rew, of Liverpool, whose firm is still in existence. In 1868 or 1869, Mr. Rew saw that the newly laid Atlantic Cable made it possible for a cotton merchant in Liverpool to ascertain with unheard-of quickness the price at which actual cotton could be bought in the southern states and the approximate date at which it could be shipped to England. He saw, also, that if the price that was being bid in Liverpool for "cotton to arrive" was high enough to enable him to buy the cotton in the South and sell contracts for this same "cotton to arrive" in Liverpool, two or three months later, he could enter into the transaction with entire safety, as when his cotton reached Liverpool, he could either deliver it to the parties to whom he had sold the contracts; or, if some spinner was willing to pay a higher relative price than the holder of the contracts had agreed to pay, he could buy back his contracts and sell the cotton to the spinner with the larger profit to himself. Here was a method, then, by which Mr. Rew or any other importer of cotton into Liverpool could relieve himself of the great risks attending the handling of a commodity which had become highly speculative, and go serenely about his business of importing cotton into Great Britain, able to make a fair profit on every importation, and yet always able to work on a much narrower margin than any of his old-style competitors, because they were carrying the merchant's risk, with its alternate profits and losses, while he had only profits. The immediate and large success obtained by Mr. Rew in his new way of conducting the cotton business attracted the instant attention of the ablest cotton merchants both of Liverpool and New York; and when a year or two later (in 1870 and 1871, respectively), the Liverpool Cotton Association and the New York Cotton Exchange were organized, the best men in the trade had adopted the new scheme as the basis of their business.

It is certain that in the early days of "hedging" neither its  
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inventor, Mr. Rew, nor his imitators at all realized the full economic possibilities or even the true economic basis of the new method. They did not, for example, think of "hedging" as more than a device by which the cotton merchant could make use of the natural propensity of speculators to buy for an advance in price, turning this into a form of protection or insurance for themselves against a decline in the value of their unsold stock of cotton. To them the cotton merchants were always on one side of the game and the speculators on the other. So general was this conception of the matter that for many years the great exchanges were denominated "the speculative markets"; and many persons both in and out of the trade looked askance upon the use of them, holding that the transactions there were necessarily, on one side at least, in the nature of gambling. Indeed, this notion has not even yet entirely died out, as is evidenced by what is said of the cotton exchanges in much of the public discussion of them. And some truth would probably have to be allowed in this contention, had "hedging" remained exactly what it was at the start. But it was speedily seen that it is just as feasible to protect oneself against loss in a transaction in cotton or cotton goods extending into the future by *buying* contracts for future delivery as "hedges," as it is to insure oneself against a decline in the price by *selling* contracts as "hedges." As soon as this was observed, there began to be buyers of contracts for future delivery on the exchanges who were not speculators at all, but merchants or manufacturers desirous of engaging themselves for the future, but unwilling to speculate on the rise or fall of the price of cotton. And these "hedge" contracts, both on the part of the merchant who sold them and on that of the manufacturer or merchant who bought them, were regarded from the start as primarily *credit* transactions, to be liquidated as such, whenever in the course of business their protection was no longer required. To be sure, they could be turned into transactions in actual cotton by anyone so desiring; but it was found that out of the multitude of transactions of this kind only a small percentage were finally treated in this way. In short, just as few persons call for actual gold at the bank against bank-notes or checks, though the gold must always be there for anyone who wants it, so few buyers of cotton contracts call for the actual cotton and few sellers deliver it, unless abnormal conditions arise, and then

the working of the natural laws of commerce always draws enough cotton to the market to supply the actual need. The ease and rapidity with which such credit transactions could be entered into, even by persons at a great distance from the markets, but represented there, caused this use to extend very rapidly. And steadily the proportion of them increased in which merchants or manufacturers were on both the selling and the buying side, so that the speculator became only one factor in the market out of many, instead of being, as at first, the only factor on one side. It is probable that to-day the speculator is interested in less than twenty-five per cent of the contracts made on the great exchanges at any time; and for long periods of speculative inactivity he is engaged to a far smaller extent than that. Few persons not actually conducting business on the great cotton exchanges can have any idea of the way in which the whole cotton world is centered in them through the development of telegraph and cable facilities to meet this new universal use of transactions in these credit contracts for future delivery for "hedge" purposes. Directly from the floor of each of the three chief exchanges the lines run to every part of the globe where cotton is dealt in. And a continuous stream of orders to buy and to sell contracts pours in over these lines from cotton merchants and cotton manufacturers or their agents everywhere. The "hedge" contracts which a cotton merchant in San Antonio, Texas, sells against 1,000 bales of cotton he has just bought may be bought as "hedge" contracts by the representative of a cotton manufacturer in New England, or Italy, or Russia, or of an importer of cotton goods at Shanghai, as insurance on some engagement for goods stretching on into the future and not yet covered with the necessary quantity and quality of actual cotton. Of course, the speculator plays his part too, and often furnishes the motive power for changes in the level of prices; but the volume of his transactions is insignificant in comparison with these others just described.

There now remains one further matter in connection with the economic theory of "hedging" in cotton which should be somewhat elucidated. It has already been stated that it is the custom in the cotton trade to arrive at the value of all the different grades of cotton by referring them to the value of the basis grade, middling. By an extension of the same principle it is taken as funda-

mental that the value of the basis grade, middling, itself will remain in every market substantially on a parity with its value in every other market. This does not mean that the price will be the same in all the markets, but that after making due allowance for the freight, insurance and other charges necessary to move cotton from its place of production to the various markets, the price will be substantially the same in them all, subject always, of course, to the moderate and temporary fluctuations of parity caused by greater or less pressure of demand or of supply in these markets. Thus, the cotton merchant at any point in the southern states knows what basis middling cotton is normally worth in his immediate vicinity as compared with its value in New Orleans or New York or Liverpool. So, too, the cotton merchant or manufacturer in Germany or Austria knows the relative value of cotton delivered to him and of basis middling cotton in all the great exchanges. In the same way the values of all the different grades and qualities of cotton everywhere, though, of course, fluctuating somewhat from season to season according to the demand for and the supply of each, may always be referred to the value of basis middling cotton on the great exchanges. In other words, all cotton, wherever it may be and whatever its quality, is regarded as part of a great common store having a substantially similar value in all the markets. This being so, the merchant in San Antonio, Texas, does not hesitate to enter into a credit contract in New York, as a "hedge" against his cotton in San Antonio, provided the parity of prices is normal. He knows that whatever he may do with his cotton or wherever he may ship it, the value of it will remain substantially on a parity with his "hedge" contract, and that, when he sells his cotton to someone else at any level of prices the market may have reached meantime, he will be able to buy back his "hedge" contract at this parity of price. As a result of this principle, the cotton trade looks upon all the cotton, scattered all over the world, which is hedged in the great markets, as constituting the stock of cotton of those markets, even though only a few hundred thousand bales out of millions may be physically in the warehouses of those markets. A further effect is to give great fluidity and mobility to this total supply of cotton and to cause it to flow at once, by means of transfers of "hedge" contracts, to those markets in which the demand is relatively strong or the

supply relatively low. Thus, the San Antonio merchant knows not only the normal parity between his home market and New York; but also the normal parity between New York and Liverpool; and, if, after having sold his "hedge" in New York, he finds that a strong demand has shown itself in Liverpool, causing the price level there to rise above its normal parity with New York, he promptly buys in his contract in New York and sells it at the higher relative price in Liverpool. The reverse is done by the buyer of "hedge" contracts in one market, when prices there go above a parity with the others; he sells out his now relatively high priced contracts and buys lower priced ones in the market which is lagging. In this way there is a continuous flow of contracts from market to market, involving in the aggregate transactions in tens of millions of bales every year, or far more than the entire crop. Indeed, there are merchants who largely devote themselves to simultaneous transactions in contracts in two or more markets, buying in the cheaper and selling in the dearer, and making their profit out of the gradual readjustment of the parity. Such merchants are called "arbitrageurs," or, more colloquially, "straddlers," and their operation is known as a "straddle." Their function is a highly important and useful one in the trade.

There remains only to state what is the nature of this contract for the future delivery of cotton, which has come to be used so universally by the cotton trade for "hedging" all its operations and so insuring itself against losses occasioned by fluctuations in the price of cotton. It is necessarily a contract for cotton "in gross," just as the merchant has to buy it from the planter, and it is consequently a contract upon which any and all grades and qualities of merchantable cotton may be delivered. The values at which other grades or qualities are deliverable are invariably obtained by reference to the basis grade, middling white upland cotton. The method of determining these values, or "differences on or off," varies between the three great markets, and there has been considerable controversy of late as to the proper theory to follow. In New Orleans, the differences are fixed from day to day in accordance with the prices made in the local spot market by the demand for and the supply of the various grades and qualities. This method has the disadvantage of causing alterations in the parity between the value of the basis middling contract and cotton

already hedged, sometimes to the loss of the merchant holding the cotton. In Liverpool, the value of each lot of cotton tendered for delivery, relative to middling uplands, is determined by members of the trade acting as arbitrators, subject to the final decision of an appeal committee. This method has the disadvantage of producing great inequalities in valuations and of making it practically impossible to calculate in advance what a given lot of cotton is worth, relative to middling. In New York the method is to determine early in each season through a large committee of experts what the "differences on and off" shall be for the rest of that crop, account being taken of the probable supply of the various grades and also of what experience has shown to be the approximate relative value of each of these grades to spinners. The disadvantage of this method is that there may be miscalculation of the probable supply of the various grades, resulting in a temporary disturbance of the parity between the value of contracts and the general value of middling. The great advantage, however, believed by most New York merchants to more than offset the disadvantage, is that after the "differences" have once been fixed, absolute calculability is obtained, enabling every merchant everywhere to know exactly what he is doing, when he enters into either a credit transaction or one in spot cotton in New York. In the long run, too, provided the "differences on and off" are kept at approximately the relative values of the various grades to the spinner, temporary departures from parity of contracts with middling will rectify themselves. Indeed, it is probable that the ideal way to determine the "differences on and off" for the various grades would be to conduct ample mechanical tests in mills and textile schools, getting the average out-turn of yarn from each grade and fixing the "differences" once and for all by the results of these tests. Something of this kind seems to be probable in the near future.

Such is the contract for the future delivery of cotton which to-day is used by all non-speculative cotton merchants as a "hedge," and which more and more the spinners of the world are employing for the same purpose. It is unnecessary here to go into the details of all the rules adopted by the merchants associated in the exchanges to govern these transactions. Suffice it to say that they are all designed to produce absolute uniformity, fairness and open-

ness between dealers in cotton. As has been indicated before, these contracts made under these rules to-day form the very foundation of the cotton business. Until some better way is found of distributing and insuring against the immense risks involved in merchandising a commodity whose price must fluctuate widely, according as nature is bounteous or niggardly, the cotton exchanges must remain indispensable in the economy of modern commerce.